



General Discussion - Disinfectant/Disinfection Byproducts Rule (DBPR)

When naturally occurring organic mater is present in the water, it will react with chlorine, chloramines, ozone, and chlorine dioxide to form byproducts which have been shown to cause a risk to public health. In order to protect public health, the Disinfectant/Disinfection Byproducts Rule (DBPR) requires all community and non-transient non-community water systems that add a disinfectant (chlorine, chloramines, ozone, chlorine dioxide) to any part of the treatment process to monitor for disinfectant residuals and disinfection byproducts. It also requires all transient systems that use chlorine dioxide to monitor for chlorite.

There are several requirements that must be met to remain in compliance with the DBPR. A **Sample Plan** must be submitted and approved prior to monitoring for Total Trihalomethanes (TTHM) and Five Haloacetic Acids (HAA5).

Monitoring must be done at the proper time(s) and location(s) for TTHM and HAA5, chlorine residuals, bromate, and chlorite. **Reporting** the results to the Bureau of Safe Drinking Water is required on a quarterly and yearly basis depending on the constituent.

TTHM and HAA5 Sample Plan:

If you are planning to

1. Add a new disinfectant
2. Change the size of your distribution system, or
3. Add a new well or treatment plant,

You must consult with our office about monitoring requirements. In order to ensure proper location(s) of your monitoring the following forms must be completed and submitted to the Bureau of Safe Drinking Water for approval.

1. **Are you a surface water system?** If yes, complete the following:
 - a. Disinfection Byproducts Sample Plan Questionnaire
 - b. Disinfection Byproducts Sample Plan
2. **Are you a groundwater system (well or spring) that uses only one well or spring?** If yes, complete the following:
 - a. Disinfection Byproducts Sample Plan Questionnaire
 - b. Disinfection Byproducts Sample Plan
3. **Are you a groundwater system (wells and/or springs) that uses more than one well and/or spring?** If yes, complete the following:
 - a. Disinfection Byproducts Sample Plan Questionnaire
 - b. Multiple Wells Questionnaire
 - c. Disinfection Byproducts Sample Plan

4. Website Attachments:
 - a. 05 Sample Plan Questionnaire
 - b. 05 Multiple Wells Questionnaire
 - c. 05 DBP Sample Plan

Monitoring:

Chlorine Residuals- If you use **chlorine** or **chloramines**, chlorine residual sampling must be taken at the same time and location as total coliform monitoring. Systems that use chlorine must measure either free chlorine or total chlorine. Systems that use chloramines must measure either combined chlorine or total chlorine.

TTHM and HAA5- If you use any disinfectant, quarterly or yearly monitoring is required depending on the approved sample plan. **Yearly** sample(s) must be taken during the month of warmest water temperature at in the distribution system at the approved location(s) that represent the furthest point(s) in the distribution system. **Quarterly** sample(s) must be taken once every quarter in the distribution system at the approved location(s).

Bromate- If you use **ozone**, monitoring must be done at least monthly. The bromate samples must be taken at the entrance to the distribution system while the ozonation system is operating under normal conditions.

Chlorite- If you use chlorine dioxide, monitoring must be done as approved by the Bureau of Safe Drinking Water.

Reporting:

- a. Attachments:
- b. Chlorine Residuals
 - i. Water systems that use chlorine must record and report the chlorine residuals at the same time and location(s) as total coliform monitoring. These reports are due **quarterly** and must include the last four quarters worth of data to compute the running annual average.
 - ii. Attachments: "Disinfectant Residual Qtr Rpt-Sample" and "Disinfectant Residual Qtr Rpt"
- c. Total Trihalomethanes (TTHM) and Five Haloacetic Acids (HAA5)
 - i. Water systems that use a disinfectant must monitor either quarterly or yearly at the approved sample location(s) in their distribution system for disinfection byproducts and report them at the end of the quarter in which sampling occurred.
 - ii. Attachments: "TTHM-HAA5 Yrly Rpt" and "TTHM-HAA5 Qtr Rpt"
- d. Bromate
 - i. Water systems that use ozone must monitor at least monthly and report the results quarterly.
 - i. Attachment: "Bromate Qtr Rpt"